Exhibit 2

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
PATENT APPLICATION NUMBER 08/487,526

DECLARATION OF DR. GEORGE T. LIGLER

I, George T. Ligler, declare as follows:

I. INTRODUCTION

1. This declaration is submitted to address several technical and fact issues that have arisen in the prosecution within the United States Patent and Trademark Office (USPTO) of patent application 08/487,526.

2. I have been asked to consider the following topics:

(1) Whether or not the specifications of U.S. patent application Ser. No. 06/317,510 filed November 3, 1981 ("the 1981 specification") and U.S. patent application Ser. No. 07/096,096 filed September 11, 1987 ("the 1987 specification") each include a written description of the subject matter claimed in the set of amended claims for patent application 08/487,526 attached as Tab A to this Declaration ("the amended claims");

(2) Several issues raised by the Examiner in Sections I through VI of the July 30, 2002 Office Action in this matter ("the July 2002 Office Action"), specifically:

(a) several aspects of the definition of the term "programming" as used in the 1981 and 1987 specifications, and the extent to which the term "programming" bears on the issue of whether or not the amended claims are adequately supported by both specifications;

(b) the extent to which any differences in the signaling method and terminology described in the 1981 and 1987 specifications would bear on the issue of whether or not the amended claims are adequately supported by both specifications; and

(c) the extent to which any differences in the description of the Wall Street Week example in the 1981 and 1987 specifications would bear on the issue of whether or not the amended claims are adequately supported by both specifications.

3. I understand that this Declaration is being submitted in conjunction with Applicant's Response to the July 2002 Office Action.

II. QUALIFICATIONS

4. As set forth in my resume (attached at Tab B), I am self-employed by GTL Associates as a consultant for clients in the fields of telecommunications, computer systems engineering, and product management. My work involves the design, specification, and consideration of computer and microprocessor-based systems, including use of those systems within a telecommunications context, with respect to both hardware and software.

5. I earned a Bachelor's degree in Mathematics (*summa cum laude*) from Furman University in 1971, and Master of Science (M.Sc.) and Doctorate (D.Phil.) degrees in Computer Science from Oxford University in 1973 and 1975, respectively. My studies at Oxford were supported by a Rhodes Scholarship.

6. I have more than twenty-five years of professional experience in the management of projects involving computer-based systems and in the fields of computer hardware, software, and systems design. Projects for which I have been responsible have ranged in size from the development of software products by small teams of programmers to the design and implementation, under a contract initially valued at $282M, of a nationwide communications network for the U.S. Treasury Department.

7. Of particular relevance to the present matter is my software and computer systems engineering experience between 1978 and 1987.

8. Beginning in 1978, I was responsible until April 1980 for a computer systems engineering branch within the Advanced Software Technology Department at Texas Instruments. The work of the branch focused on topics including the development of both software (including embedded operating systems) and hardware for application-specific microprocessor-based computer systems, including bus interface units used to support digital communications. I additionally chaired a corporate-wide task force that developed a high-level-language-oriented microprocessor architecture.

9. In 1980-1982 I was Deputy Manager of Great Valley Laboratories and subsequently Deputy General Manager and Director of Engineering of the Special Systems Division of the Burroughs Corporation. In the latter capacity, I was responsible for programs including research and development in distributed processing, the use of display technology, and telecommunications. My organization included approximately 450 engineering and support personnel.

10. From 1982 to 1984 I was President of the Aydin Controls Division of the Aydin Corporation. Aydin Controls designed, manufactured, and marketed high resolution color graphic display generators and color monitors for over 300 Original Equipment Manufacturers and end users.

11. From 1984 to 1987 I was a Division Vice President at Computer Sciences Corporation, and had program responsibility in several business areas involving telecommunications and computer systems technology.

12. I have authored or co-authored twenty technical publications in several fields, including articles relating to computer programming languages and their implementation, computer software development methodologies, and computer/computer system architecture. Tab C is a list of these publications, as well as information on indicative abstracts and standards group working papers which I have authored or co-authored.

13. I have taught graduate and undergraduate level courses at the University of Texas at San Antonio in computer science, given numerous invited lectures in several technology areas, served on doctoral dissertation committees, and served, *pro bono*, on advisory committees formed by the National Research Council and other bodies.

14. I have been engaged by the Hunton & Williams law firm as a consultant in connection with this matter. I have been compensated at my normal consulting rate, plus expenses. I will receive no other compensation for my work in this matter.

15. Attached at Tab D is a list of materials cited and/or reviewed in preparing this Declaration. In particular, I have reviewed Sections 201.11 and 2163 of the Manual of Patent Examining Procedures (MPEP) (8th Ed. 2001) in conjunction with 35 U.S.C. §§ 112 and 120 and I have applied the standards set forth in those documents to perform my analysis of the written description issue raised in (1) in Paragraph 2 above.

III. SUMMARY OF OPINIONS

16. I have formed the following opinions based principally upon (1) my direct experience between 1978 and 1987 summarized above; (2) trial testimony which I have read and about which I have previously opined concerning the level of ordinary skill prior to 1985 in the art of the 1981 and 1987 specifications; and (3) my review of the 1981 specification, the 1987 specification, the amended claims, MPEP materials cited above, and the July 2002 Office Action:

A. A person of ordinary skill in the art of the 1981 and 1987 specifications in 1981 would be a skilled individual in the computer arts and in television and/or cable systems. This individual might be degreed or alternatively might have extended experience after either a high school education or a high school education plus a few years of college. A person of ordinary skill in the art of the 1981 and 1987 specifications in 1987 would have the same level of skill but would be more likely to have a college degree and

would also be aware of advances in the art that had occurred between 1981 and 1987.

B. From the vantage point of such a person of ordinary skill in 1981, the claimed subject matter of the amended claims is sufficiently described in the 1981 specification. From the vantage point of such a person of ordinary skill in 1987, the same claimed subject matter of the amended claims is sufficiently described in the 1987 specification.

C. Differences between the 1981 and 1987 specifications concerning the topics enumerated in Paragraph 2(2) above would not impact the ability of such persons of ordinary skill in the art to conclude that the subject matter claimed in the amended claims is sufficiently described in both specifications.

IV. BASES FOR OPINIONS

17. References herein to the 1981 specification are made with regard to the presentation of that specification in U.S. Patent 4,694,490.

A. Person of Ordinary Skill in the Art of the 1981 and 1987 Specifications

18. While the 1981 specification does not expressly list the fields involved therein, the commonality with the express recitations in the 1987 specification is clear (1987 specification at page 1, lines 10-17). The 1981 specification clearly discusses (following the 1987 specification's enumeration):

(a) computer processing: e.g., at col. 4, l. 68 to col. 5, l. 7; col. 19, ll. 48-53.
(b) computer communications: e.g., at col. 5, ll. 11-14; col. 19, ll. 35-41.
(c) television: e.g., at col. 3, ll. 32-37.
(d) radio: e.g., at col. 3, ll. 51-56.
(e) other electronic communications: e.g., at col. 3, ll. 51-56.

(f) automating the handling, recording, and retransmitting of television, radio, computer, and other electronically transmitted programming: at, e.g., col. 3, ll. 51-56; col. 10, ll. 14-23; col. 11, ll. 38-44.

(g) regulating, metering, and monitoring the availability, use, and usage of such programming: at, e.g., col. 3, ll. 41-47; col. 3, l. 66 to col. 4, l. 4; col. 5, ll. 11-14.

19. As discussed in Section II above, I was directly involved in the research, development, and management of microcomputer-based systems including display and telecommunications technology in the period 1978-1987. My duties included supervision of many engineering and technical personnel in these fields. Additionally, I have reviewed trial testimony specifically regarding the level of experience of practitioners in the fields of the computer arts as they relate to the provision of information over cable television systems in this time frame such as John Kerklo, Charles Clupper, and Michael Axford (please see Tab E). I therefore conclude

Opinion A: A person of ordinary skill in the art of the 1981 and 1987 specifications in 1981 would be a skilled individual in the computer arts and in television and/or cable systems. This individual might be degreed or alternatively might have extended experience after either a high school education or a high school education plus a few years of college. A person of ordinary skill in the art of the 1981 and 1987 specifications in 1987 would have the same level of skill but would be more likely to have a college degree and would also be aware of advances in the art that had occurred between 1981 and 1987.

B. The 1981 and 1987 Specifications and the Written Description Requirement with Regard to the Amended Claims

20. I have carefully reviewed the amended claims in view of both the 1981 specification as understood by a person of ordinary skill in the art in 1981 and the 1987 specification as understood by a person of ordinary skill in the art in 1987. I will discuss at this point how both the 1981 and 1987 specifications so understood support the

claimed subject matter of independent amended claims 2, 20, 24, 26, 29, and 33. Tab F is a Supplemental Support Chart which provides the basis of support for amended claims other than independent amended claims 2, 20, 24, 26, 29, and 33. Although I have provided the bases for my opinion for claims other than amended claims 2, 20, 24, 26, 29, and 33 in chart form for purposes of brevity, I conducted the same detailed analysis for those claims as I have done for amended claims 2, 20, 24, 26, 29, and 33.

(1) Amended Claim 2

21. Amended claim 2 recites the following, with annotations providing exemplary support from the 1981 and 1987 specifications:

> 2. A method for outputting a multimedia presentation at a receiver station adapted to receive a plurality of signals, said method comprising the steps of:
>
> receiving said plurality of signals, at least a portion of said plurality of signals being received from a source external to said receiver station, said plurality of signals including at least two media (1981 specification at, e.g., col. 19, ll. 5-8 and ll. 35-41; 1987 specification at, e.g., p. 20, ll. 20-29; and p. 449, ll. 13-20 and ll. 26-35);
>
> storing information from a first of said at least two media (1981 specification at, e.g., col. 19, ll. 39-41; 1987 specification at, e.g., p. 449, ll. 13-35);
>
> determining content of a second medium received in said plurality of signals (1981 specification at, e.g., col. 19, ll. 12-23; 1987 specification at, e.g., p. 435, l. 23 to p. 436, l. 1);
>
> coordinating, at said receiver station under computer control, a presentation using said information with a presentation of said second medium based on said step of determining (microcomputer 205; 1981 specification at, e.g.,

col. 19, ll. 30-34; and col. 19, l. 54 to col. 20, l. 2; 1987 specification at, e.g., p. 12, ll. 3-9; p. 24, l. 22 to p. 25, l. 8; and p. 25, l. 33 to p. 26, l. 11); and

outputting said multimedia presentation to a user at said receiver station based on said step of coordinating such that said presentation using said information has a predetermined relationship to said content of said second medium (1981 specification at, e.g., col. 19, l. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 26, ll. 4-11).

22. In both the 1981 and 1987 specifications, an exemplary "plurality of signals including at least two media" is a first medium containing stock quote information and a second medium being the Wall Street Week television program with embedded instruction and information signals (1981 specification at, e.g., col. 19, ll. 5-8 and ll. 35-41; 1987 specification at, e.g., p. 20, ll. 21-26; and p. 449, ll. 13-20 and ll. 26-35). Both of these media are expressly described as being received by the exemplary user's receiver station from one or more sources external to that receiver station (1981 specification at, e.g., col. 19, ll. 5-8 and ll. 35-41; 1987 specification at, e.g., p. 20, ll. 20-29; and p. 449, ll. 13-20 and ll. 26-35).

23. In both the 1981 and 1987 specifications, stock quote information pertinent to a user's stored stock portfolio is stored at the exemplary receiver station (1981 specification at, e.g., col. 19, ll. 39-41; 1987 specification at, e.g., p. 449, ll. 13-35). While the 1987 specification discloses that the exemplary portfolio information is stored on a floppy disk at the receiver station (1987 specification at, e.g., p. 21, ll. 5-14), this particular method of storing is not recited in amended claim 2.

24. In both the 1981 and 1987 specifications, a program identifier received in advance of the exemplary Wall Street Week broadcast is used to determine content of the

Wall Street Week television program (1981 specification at, e.g., col. 19, ll. 12-23; 1987 specification at, e.g., p. 435, l. 23 to p. 436, l. 1). As with the instruction signals discussed in Paragraphs 39 and 40 below, the 1987 specification describes a more detailed signaling protocol for the program identification signals than is described in the 1981 specification. However, none of these details are recited in amended claim 2.

25. In both the 1981 and 1987 specifications, the exemplary receiver station prepares, under control of at least exemplary microcomputer 205, a presentation using the stored stock quote information pertinent to the stored stock portfolio of a user of the receiver station. This presentation is a graphic overlay of the user's own stocks' performance to be shown in conjunction with a television-studio-generated graphic of performance of the Dow Jones Industrials (and, in the 1981 specification, of the NASDAQ index as well) within the Wall Street Week television program (1981 specification at, e.g., col. 19, l. 54 to col. 20, l. 2; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 8). Both the 1981 and 1987 specifications disclose the preparation of the combined display as involving coordination in time (1981 specification at, e.g., col. 19, ll. 30-34; 1987 specification at, e.g., p. 12, ll. 3-9; and p. 25, l. 33 to p. 26, l. 11). The coordination is based upon the receipt of the Wall Street Week program identifier because receipt of that identifier enables the entire process of generation, coordination, and display of the overlay of the user's own stocks' performance.

26. Finally, both the 1981 and 1987 specifications disclose that, based upon the step of coordinating discussed in Paragraph 25 above, the exemplary overlay of the user's own stocks' performance and the studio-generated graphic of stock index performance received in a transmission of the Wall Street Week television program are simultaneously (a predetermined relationship based on time and content) displayed (1981

specification at, e.g., col. 19, l. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 26, ll. 4-11).

27. The above evidence clearly indicates, in my opinion, that the claimed subject matter of amended claim 2 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claim 2 at the time of the filing of those specifications.

(2) Amended Claim 33

28. Amended claim 33 recites the following, with annotations providing exemplary support from the 1981 and 1987 specifications:

> 33. A method of outputting a multimedia presentation at a receiver station, said method comprising the steps of:
>
> receiving a first signal from a remote transmitter station (1981 specification at, e.g., col. 20, ll. 16-19; 1987 specification at, e.g., p. 470, ll. 9-17);
>
> outputting said first signal at said receiver station (1981 specification at, e.g., col. 20, ll. 16-19; 1987 specification at, e.g., p. 470, ll. 9-17; and p. 471, ll. 6-13);
>
> receiving a user response based on said step of outputting (1981 specification at, e.g., col. 20, ll. 19-28; 1987 specification at, e.g., p. 471, ll. 6-24);
>
> comparing said user response to information corresponding to content of said first signal at said receiver station (1981 specification at, e.g., col. 20, ll. 28-38; 1987 specification at, e.g., p. 472, ll. 13-17);

tuning said receiver station to receive a second signal based on said step of comparing (1981 specification at, e.g., col. 20, ll. 32-37; 1987 specification at, e.g., p. 471, l. 8; and p. 477, ll. 8-13); and

outputting information included in said second signal (1981 specification at, e.g., col. 20, ll. 47-50; 1987 specification at, e.g., p. 474, ll. 2-35);

wherein said multimedia presentation comprises information included in said first signal and said information included in said second signal (1981 specification at, e.g., col. 20, ll. 16-19 and ll. 47-50; 1987 specification at, e.g., p. 470, ll. 9-17; p. 471, ll. 6-13; and p. 474, ll. 2-8).

29. In both the 1981 and 1987 specifications, a cooking television program with its embedded instruction and information signals is the exemplary first signal (1981 specification at, e.g., col. 20, ll. 16-19 ("The French Chef"); 1987 specification at, e.g., p. 470, ll. 9-17 ("Exotic Meals of India")). This first signal is received by the exemplary user's receiver station from a remote transmitter station (1981 specification at, e.g., Figure 6D; 1987 specification at, e.g., Figure 7F).

30. In both the 1981 and 1987 specifications, the cooking program is disclosed to be output at the receiver station (1981 specification at, e.g., col. 20, ll. 16-19; 1987 specification at, e.g., p. 470, ll. 9-17; and p. 471, ll. 6-13).

31. In both the 1981 and 1987 specifications, an exemplary user response of "567" may be received by the receiver station if the user is interested in obtaining a recipe for a particular dish (1981 specification at, e.g., col. 20, ll. 19-28; 1987 specification at, e.g., p. 471, ll. 6-24). This user response is disclosed as being based upon hearing an audio statement within the cooking program broadcast (1981 specification at, e.g., col. 20, ll. 19-24; 1987 specification at, e.g., p. 471, ll. 6-13).

32. In both the 1981 and 1987 specifications, the exemplary user response is (at least) inherently compared, upon receiving an instruction signal embedded within the broadcast of the cooking television program (see Paragraphs 39 and 40 below), against information (e.g., "567") corresponding to the audio statement made within the cooking program broadcast to determine whether the user wishes to obtain the recipe (1981 specification at, e.g., col. 20, ll. 28-38; 1987 specification at, e.g., p. 472, ll. 13-17).

33. In both the 1981 and 1987 specifications, if the comparison indicates that the user wishes to obtain the recipe, tuning at the exemplary receiver station is disclosed (this is an alternate embodiment within the 1987 specification) in order to receive a second signal which contains recipe information (1981 specification at, e.g., col. 20, ll. 32-37; 1987 specification at, e.g., p. 471, l. 8; p. 473, ll. 3-13; p. 474, ll. 8-35; and p. 477, ll. 8-13).

34. In both the 1981 and 1987 specifications, the recipe, if ordered, is output at the user receiver station (1981 specification at, e.g., col. 20, ll. 47-50; 1987 specification at, e.g., p. 474, ll. 2-8). The exemplary multimedia presentation in both specifications includes both the cooking television program and a printed recipe (1981 specification at, e.g., col. 20, ll. 16-19 and ll. 47-50; 1987 specification at, e.g., p. 470, ll. 9-17; p. 471, ll. 6-13; and p. 474, ll. 2-8).

35. The above evidence clearly indicates, in my opinion, that the claimed subject matter of amended claim 33 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claim 33 at the time of the filing of those specifications.

(3) Amended Claims 20, 24, 26, and 29

36. Amended claim 20 has recitations similar in many respects to those of amended claim 2 (see Paragraphs 21 through 27 above), with the first medium of amended claim 20 exemplified by the Wall Street Week television program and its embedded instruction and information signals and the second medium of amended claim 20 being exemplified by stock quote information. Both the 1981 and 1987 specifications disclose that content of the stock quote information is identified (1981 specification at, e.g., col. 19, ll. 35-41; 1987 specification at, e.g., p. 449, ll. 13-35) and that processor instructions are executed in order to prepare the coordinated presentation of the overlay of the user's own stocks' performance and the studio-generated graphic discussed, for example, in Paragraphs 25 and 26 above (1981 specification at, e.g., col. 19, ll. 48-53; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 6). Both the 1981 and 1987 specifications also disclose that generation of the overlay of the user's own stocks' performance is based on identifying content of the stock quote information (1981 specification at, e.g., col. 19, ll. 35-41 and ll. 48-53; and col. 19, ll. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 8; and p. 449, ll. 13-35).

37. Amended claim 24 has recitations similar in many respects to those of amended claim 33 (see Paragraphs 28 through 35 above), with the exemplary television program being the cooking television program of Paragraph 29 above and the exemplary first and second output devices being a television and printer, respectively (1981 specification at, e.g., Figure 6D, elements 202 and 221; and col. 20, ll. 11-14, ll. 16-18, and ll. 47-50; 1987 specification at, e.g., Figure 7F, elements 202M and 221; and p. 469, ll. 3-9). The exemplary "information stored at said receiver station" is the user response of "567" discussed in Paragraph 31 above. The exemplary "second information corresponding to content of said television program" is as discussed in Paragraph 32 above. Both the 1981 and 1987 specifications disclose two exemplary media, providing the cooking television program with its embedded instruction and information signals and the recipe, which are received from different sources (e.g., different channels: see

Paragraph 33 above; 1981 specification at, e.g., col. 15, ll. 52-56; 1987 specification at, e.g., p. 317, ll. 2-6).

38. Amended claim 26 has recitations similar in many respects to those of amended claim 2 (see Paragraphs 21 through 27 above). The two media of amended claim 26 being received from different sources is exemplified by receiving stock quote information from either a remote data service or a digital information channel while receiving the Wall Street Week broadcast originating in a remote television studio through a multichannel cable television system (1981 specification at, e.g., col. 15, ll. 52-56; col. 19, ll. 5-8, ll. 37-39, and ll. 60-62; and Figure 6C; 1987 specification at, e.g., p. 20, ll. 21-29; p. 317, ll. 2-6; p. 449, ll. 26-35; and Figure 7C). Identifying content of the media is supported as discussed in Paragraphs 24 and 36 above. Both the 1981 and 1987 specifications disclose outputting the multimedia presentation based upon identifying content of the media (1981 specification at, e.g., col. 19, ll. 20-29, ll. 35-41 and ll. 48-53; and col. 19, ll. 67 to col. 20, l. 2; 1987 specification at, e.g., p. 24, l. 22 to p. 25, l. 8; p. 25, l. 23 to p. 26, l. 11; p. 435, l. 23 to p. 436, l. 1; and p. 449, ll. 13-35).

39. Amended claim 29 also has recitations similar in many respects to those of amended claim 2 (see Paragraphs 21 through 27 above), with a specific recitation of a control signal "that causes execution of processor instructions to create a series of discrete video images." In both the 1981 and 1987 specifications, this control signal is disclosed as being an exemplary instruction signal, a signal which is transmitted within, for example, the signals for a television program, and which instructs microcomputers at subscriber stations to perform particular operations (at least inherently using processor instructions) (1981 specification at, e.g., col. 10, ll. 14-61; and col. 19, ll. 42-44, ll. 48-53, and ll. 60-62; 1987 specification at, e.g., p. 12, ll. 18-25; p. 25, l. 33 to p. 26, l. 12; and p.451, ll. 6-11). The detailed data signaling protocol for instruction signals presented in the 1987 specification and not presented in the 1981 specification is simply not recited in amended claim 29. The Wall Street Week television program is given as a specific

example of transmitted video in both specifications (1981 specification at, e.g., col. 19, ll. 5-9; 1987 specification at, e.g., p. 20, ll. 21-26). Moreover, both specifications expressly disclose examples of instruction signals (see Paragraph 40 below) broadcast by a remote transmitter which cause a microcomputer at a subscriber's receiver station to either generate or output the same exemplary locally generated portion of the Wall Street Week video presentation (i.e., an overlay of the user's own stocks' performance, see Paragraph 25 above).

40. The specific exemplary signals disclosed to cause the generation of the exemplary overlay are discussed in a much more detailed fashion in the 1987 specification than in the 1981 specification (see, e.g., the End of File Signal (EOFS) in the 1987 specification at Figure 2I; p. 24, ll. 16-21; p. 62, ll. 26-28; and p. 105, l. 9 to p. 106, l. 3; 1981 specification at, e.g., col. 19, ll. 45-53). However, none of these details are recited in amended claim 29. Similarly, the specific exemplary signals disclosed to cause the outputting of the overlay of the user's own stocks' performance onto the studio-generated graphic within the Wall Street Week television broadcast are more detailed in the 1987 specification than in the 1981 specification (see, e.g., the 1987 specification at p. 25, l. 34 to p. 26, l. 11; the 1981 specification at, e.g., col. 19, ll. 60-66). However, such signals for causing outputting are not recited in amended claim 29.

41. The above evidence clearly indicates, in my opinion, that the claimed subject matter of amended claims 20, 24, 26, and 29 is disclosed in sufficient detail, in both the 1981 and 1987 specifications, that a person of ordinary skill in the relevant time frames would reasonably understand that the inventor possessed the subject matter of amended claims 20, 24, 26, and 29 at the time of the filing of those specifications.

42. As mentioned above, Tab F is a Supplemental Support Chart which provides the basis of support for amended claims other than independent claims 2, 20, 24, 26, 29, and 33. On the basis of the discussion in Paragraphs 18-41 above and Tab F, I therefore conclude:

> **Opinion B:** From the vantage point of such a person of ordinary skill in 1981, the claimed subject matter of the amended claims is sufficiently described in the 1981 specification. From the vantage point of such a person of ordinary skill in 1987, the same claimed subject matter of the amended claims is sufficiently described in the 1987 specification.

C. Impact of Differences between the 1981 and 1987 Specifications

43. The emphasis in Opinion B above on the word "claimed" when modifying the term "subject matter" is key to the analysis presented in Paragraphs 17-42, as there are clearly many differences between the 1981 and 1987 specifications, particularly (though not only) in the level of detail of presentation. In this context, I have been asked to consider several issues raised by the Examiner in Sections I through VI of the July 2002 Office Action and to determine any impact of those issues on the question of whether or not the amended claims are adequately supported by the 1981 and 1987 specifications.

(1) "Programming"

44. In the July 2002 Office Action, the Examiner states that a change was made to the definition of the word "programming" in the 1987 specification as compared to the 1981 specification (July 2002 Office Action, at, e.g., pp. 22-23). In developing his argument, however, the Examiner takes, as I understand the argument, an overly narrow interpretation of the 1981 specification's definition of the term:

"everything that is transmitted over television or radio intended for communication of entertainment or to instruct or inform"
(1981 specification at Abstract).

45. In my opinion, the above definition of the term "programming" expressly includes the instruction and information signals referred to numerous times in the 1981 specification (and, as seen above, in the 1987 specification). Indeed, the specification passages cited by the Examiner on pp. 25-27 of the July 2002 Office Action confirm this view. For example, the repeated discussion in these passages of identifier signals, instruction signals, and information signals being "in" programming simply confirms the express definition provided in the Abstract of the 1981 specification, as does discussion of adding such signals to programming.

46. The 1987 specification's definition of the term "programming" is as follows:

"everything that is transmitted electronically to entertain, instruct, or inform including television, radio, broadcast print, computer programming, as well as combined medium programming" (1987 specification at p. 11, ll. 6-10).

47. Given that the instruction and information signals disclosed in the 1981 and 1987 specifications are expressly in this definition as well, the issue raised by the Examiner of the definition of the term "programming" in the 1981 and 1987 specifications does not, in my view, bear on the issue of whether or not the amended claims are supported by both specifications. Moreover, the term "programming" is not used in the amended claims (see Tab A).

(2) Signaling Method and Terminology

48. In the July 2002 Office Action, the Examiner further asserts that several differences between the 1981 and 1987 specifications involving signaling methods and

terminology are pertinent to the claimed subject matter in the claims under examination. I will discuss several of these assertions with regard to the amended claims.

49. First, the Examiner maintains that "the 'instruct signals' of applicant's 1987 specification comprised computer software/programming whereas the 'instruct signals' of applicant's 1981 specification did not comprise computer software/programming" (July 2002 Office Action, p. 37). In my view, the accuracy or inaccuracy of this assertion does not bear on the issue of whether or not the amended claims are supported by both specifications. For example, as discussed in Paragraphs 39 and 40 above, both the 1981 and 1987 specifications disclose instruction signals that are not computer software/programming and that serve the claimed functions of amended claim 29. Other instruction signal recitations in the amended claims are similarly supported.

50. Second, the Examiner maintains that "the term 'signal word' represents but just one example of the more subtle inconsistencies that exist between the 1981 and the 1987 disclosures" (July 2002 Office Action, p. 38). As noted in the July 2002 Office Action (July 2002 Office Action, pp. 38-39), this term is given the identical express definition (including the relationship of a "signal word" to a "signal unit") in both the 1981 and 1987 specifications. It is this express definition, and the clear (to a person of ordinary skill in the art in the relevant time frame) applicability of this definition to the transmission of signals in the Wall Street Week example in both the 1981 and 1987 specifications, which I have applied in the analysis of the amended claims, and I find the subject matter of the amended claims supported by both the 1981 and 1987 specifications using this definition (see, for example, the 1981 specification at, e.g., col. 2, l. 64 to col. 3, l. 12; and col. 7, ll. 36-39; 1987 specification at, e.g., p. 14, l. 22 to p. 15, l. 6; p. 30, ll. 7-9; p. 69, ll. 10-12; and p. 74, ll. 10-13). I further note that none of the amended claims recite either the term "signal word" or the organization of signal words into signal units such as an instruction signal.

51. Third, the Examiner maintains that the 1987 specification discloses a Signal Processing Apparatus and Methods (SPAM) environment in which "it was this SPAM packeting which carried an expanded range of 'signal unit'-*like* information" (July 2002 Office Action at p. 41, italics in original). Again, whether or not this assertion has merit with regard to new matter ("expanded range") being present in the 1987 specification, the signals claimed in the amended claims, as discussed in Paragraphs 24 and 39-40 above, are supported in both the 1981 and 1987 specifications.

52. Finally, the Examiner appears to assert that unlike the receiver station of the 1981 specification, the receiver station of the 1987 specification could be reprogrammed "on the fly (i.e., without a visit from a service technician being necessary)" (July 2002 Office Action, p. 48). As discussed in Paragraph 47 above, any differences between the 1981 and 1987 specifications in this regard do not bear on the issue of whether or not the amended claims are supported by both specifications. However, I observe that the Examiner, in making this statement, is overlooking the clear disclosure in the 1981 specification that describes reprogramming of a receiver station without a visit from a service technician being necessary (1981 specification at, e.g., col. 9, ll. 21-22; and col. 10, ll. 10-13).

53. In summary, while the disclosure of signaling protocols is much more detailed in the 1987 specification and that disclosure in a number of cases uses terminology not used in the 1981 specification, the details of the protocols are not recited in the amended claims and the differences in terminology do not bear on the issue of whether or not the amended claims are supported by both specifications.

(3) The Description of the Wall Street Week Example in the 1981 and 1987 Specifications

54. The Examiner asserts that there are inconsistencies between the 1981 and 1987 specifications with regard to the description of the Wall Street Week example of coordinating multimedia presentations in time. I have been asked to determine whether

any such inconsistencies bear on the issue of whether or not the amended claims are supported by both specifications.

55. One primary argument of the Examiner in this regard is that the method used to overlay graphic images in the Wall Street Week example involves downloading software in the 1987 specification but involves the "cuing" of the receiver station to execute preexisting software instructions in the 1981 specification (July 2002 Office Action, at, e.g., p. 45). As indicated in Paragraph 52 above, the 1981 specification expressly discloses an ability to reprogram the receiver station in question. In any event, however, none of the amended claims recites the downloading of software instructions and/or reprogramming of the microcomputer 205 of embodiments of the receiver station (see also Paragraph 47 above). I thus conclude that this argument of the Examiner does not bear on the issue of whether or not the amended claims are supported by both specifications.

56. The second primary argument of the Examiner is that "all of the recitations that are directed to the signals/instructions/data that are conveyed as ancillary signaling within Radio and TV Programming transmissions, derive their Required Section 112 support from the SPAM signaling that was first introduced by applicant's "1987" instant disclosure." (July 2002 Office Action, p. 46). As discussed in, for example, Paragraphs 24 and 39-40 above, the 1981 and 1987 specifications both support the claimed signals, and the amended claims do not recite the details of the SPAM signaling method, those details indeed in many instances being first introduced in the 1987 specification.

57. I therefore conclude

Opinion C: Differences between the 1981 and 1987 specifications concerning the topics enumerated in Paragraph 2(2) above would not impact the ability of one of ordinary skill in the art to conclude that the subject matter claimed in the amended claims is sufficiently described in both specifications.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of patent application 08/487,526 or any patent that issues thereon.

Executed this 23rd day of January, 2003, at Potomac, Maryland.

George T. Ligler